



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,437	10/09/2003	Jimmie Earl DeWitt JR.	AUS920030491US1	2105
35525 7590 02/26/2007 IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER WU, JUNCHUN	
			ART UNIT 2191	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/682,437

Applicant(s)

DEWITT ET AL.

Examiner

Junchun Wu

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

1. Claims 1-21 are pending in this application.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 8-14 are rejected under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter.

4. In regards to claims 8-14 the claims are directed to a computer program product on a computer readable medium comprising of recordable-type media and transmission-type media. The transmission-type media include digital and analog communication links such as radio frequency and light wave transmissions (See specification page 106 lines 30-31 and 107 lines 1-17). Therefore, the specified claims do not fall within the technological arts and therefore, is non-statutory. See MPEP § 2106. Examiner suggest applicant to amend the limitation "computer readable medium" by further specifying it as "recordable-type media".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

Art Unit: 2191

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Johnson et al. hereinafter "Johnson" (US Patent No. 6,542,985 B1), and in view of Luu et al. hereinafter "Luu" (US Patent No. 4,316,245).

7. For a claim 1, Johnson teaches a method in a data processing system for executing instructions, the method comprising: executing instructions in a processor in the data processing system (Abstract lines 1-2); detecting indicators during execution of the instructions, wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract lines 2-6) or are data values in memory that specify counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9); counting events that occur within the data processing system as specified by the indicators (col.3 lines 46-49); retrieving a count value that represents counted events (col.9 lines 13-16).

Johnson does not teach the count value to represent a number of operations related to acquiring a semaphore. However Luu teaches the count value to represent a number of operations related to acquiring a semaphore (Abstract lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by using count value to represent a number of operations related to acquiring a semaphore as taught by Luu in order to represent the number of processes in queue and the number of times a particular kind of event has occurred for reading the semaphore in the data processing system (Luu, Abstract lines 16-23).

8. For claims 2, 9, and 16, Johnson does not teach performing a computation in which the count value represents a number of attempts to acquire a semaphore, a number of successes in acquiring the semaphore, or a number of failures in acquiring the semaphore. However, Luu teaches performing a computation in which the count value represents a number of attempts to acquire a semaphore (Abstract lines 1-6), a number of successes in acquiring the semaphore (col.58 lines 49-51), or a number of failures in acquiring the semaphore (col.88 lines 54-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by performing a computation in which the count value represents a number of attempts to acquire a semaphore, a number of successes in acquiring the semaphore, or a number of failures in acquiring the semaphore by Luu in order to using Semaphore Count Field (SCT) with the P and V operations to indicate the availability of a resource on the semaphore (Luu, col.43 lines 24-31).

9. For claims 3, 10, and 17, Johnson does not teach adjusting operations on the semaphore based on the count value. However, Luu teaches adjusting operations on the semaphore based on the count value (col.57 lines 11-19; Semaphore Count Field (SCT) is used to indicate the actual number of processes waiting on the semaphore by performing V and P operations).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by adjusting operations on the semaphore based on the count value by Luu in order to using Semaphore Count Field (SCT) with the P and V operations to indicate the availability of a resource on the semaphore (Luu, col.43 lines 24-31).

10. For claim 4, Johnson teaches a method in a data processing system for executing instructions, the method comprising: associating indicators with the instructions such that the indicators are to be processed during execution of the instructions (col.3 lines 13-18), wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract line 2-6) or are data values in memory that specify counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9).

Johnson does not teach determining instructions for an operation on a semaphore. However, Luu teaches determining instructions for an operation on a semaphore (col.57 lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by determining instructions for an operation on a semaphore as taught by Luu in order to perform a proper execution of any of P and V instructions and the firmware indicates that the instructions may be properly executed (Luu, col.57 lines 35-41).

11. For claims 5, 12, and 19, Johnson does not teach associating an indicator with an instruction that attempts to acquire the semaphore whereby a count value for the counting of events that are associated with execution of the instruction represents a number of attempts to acquire the semaphore. However, Luu teaches associating an indicator with an instruction that attempts to acquire the semaphore (col.52 lines 2-9; using a tag bit as an indicator with the

Art Unit: 2191

instructions directed to semaphore), whereby a count value for the counting of events that are associated with execution of the instruction represents a number of attempts to acquire the semaphore (col.43 lines 14-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by associating an indicator with an instruction that attempts to acquire the semaphore whereby a count value for the counting of events that are associated with execution of the instruction represents a number of attempts to acquire the semaphore by Luu in order to using Semaphore Count Field (SCT) with the P and V operations to indicate the availability of a resource on the semaphore (Luu, col.43 lines 24-31).

12. For claims 6, 13, and 20, Johnson does not teach associating an indicator with an instruction that is executed during a successful acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of successes in acquiring the semaphore. However, Luu teaches associating an indicator with an instruction that is executed during a successful acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of successes in acquiring the semaphore (col.43 lines 5-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by associating an indicator with an instruction that is executed during a successful acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of successes in acquiring the semaphore by Luu in order to using Semaphore Count

Art Unit: 2191

Field (SCT) with the P and V operations to indicate the availability of a resource on the semaphore (Luu, col.43 lines 24-31).

13. For claims 7, 14 and 21, Johnson does not teach associating an indicator with an instruction that is executed during a failed acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of failures in acquiring the semaphore. However, Luu teaches associating an indicator with an instruction that is executed during a failed acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of failures in acquiring the semaphore (col.88 lines 54-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by Johnson does not teach associating an indicator with an instruction that is executed during a failed acquisition of the semaphore, whereby a count value for the counting of events that are associated with execution of the instruction represents a number of failures in acquiring the semaphore by Luu in order to using Semaphore Count Field (SCT) with the P and V operations to indicate the availability of a resource on the semaphore (Luu, col.43 lines 24-31).

14. For claim 8, Johnson teaches a computer program product on a computer readable medium for use in a data processing system that executes instructions, the computer program product comprising: means for executing instructions in a processor in the data processing system (Abstract lines 1-2); means for detecting indicators during execution of the instructions,

Art Unit: 2191

wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract lines 2-6) or are data values in memory that specify counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9); means for counting events that occur within the data processing system as specified by the indicators; means for retrieving a count value that represents counted events (col.3 lines 46-49).

Johnson does not teach means for using the count value to represent a number of operations related to acquiring a semaphore. However, Luu teaches using the count value to represent a number of operations related to acquiring a semaphore (Abstract lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by using count value to represent a number of operations related to acquiring a semaphore as taught by Luu in order to represent the number of processes in queue and the number of times a particular kind of event has occurred for reading the semaphore in the data processing system (Luu, Abstract lines 16-23).

15. For claim 11, Johnson teaches a computer program product on a computer readable medium for use in a data processing system that executes instructions, the computer program product comprising: means for associating indicators with the instructions such that the indicators are to be processed during execution of the instructions (col.3 lines 13-18), wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract lines 2-6) or are data values in memory that specify

Art Unit: 2191

counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9).

Johnson does not teach means for determining instructions for an operation on a semaphore. However, Luu teaches determining instructions for an operation on a semaphore (col.57 lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by determining instructions for an operation on a semaphore as taught by Luu in order to perform a proper execution of any of P and V instructions and the firmware indicates that the instructions may be properly executed (Luu, col.57 lines 35-41).

16. For claim 15, Johnson teaches an apparatus in a data processing system that executes instructions, the apparatus comprising: means for executing instructions in a processor in the data processing system (Abstract lines 1-2); means for detecting indicators during execution of the instructions, wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract lines 2-6) or are data values in memory that specify counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9); means for counting events that occur within the data processing system as specified by the indicators (col.3 lines 46-49); means for retrieving a count value that represents counted events (col.9 lines 13-16).

Johnson does not teach means for using the count value to represent a number of operations related to acquiring a semaphore. However, Luu teaches using the count value to represent a number of operations related to acquiring a semaphore (Abstract lines 1-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by using count value to represent a number of operations related to acquiring a semaphore as taught by Luu in order to represent the number of processes in queue and the number of times a particular kind of event has occurred for reading the semaphore in the data processing system (Luu, Abstract lines 16-23).

17. For a claim 18, Johnson teaches an apparatus in a data processing system that executes instructions, the apparatus comprising: associating indicators with the instructions such that the indicators are to be processed during execution of the instructions (col.3 lines 13-18), wherein the indicators are data values in memory that specify counting of events that are associated with execution of the instructions (Abstract lines 2-6) or are data values in memory that specify counting of events that are associated with accesses to memory locations (col.3 lines 64-67 & col.4 lines 5-9).

Johnson does not teach means for determining instructions for an operation on a semaphore. However, Luu teaches determining instructions for an operation on a semaphore (col.57 lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson's teachings by determining instructions for an operation on a semaphore as taught by Luu in order to perform a proper execution of any of P and V

Art Unit: 2191

instructions and the firmware indicates that the instructions may be properly executed (Luu, col.57 lines 35-41).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junchun Wu whose telephone number is 571-270-1250. The examiner can normally be reached on 8:00-17:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Junchun Wu


SUPERVISOR
PATENT EXAMINER
WEI ZHEN